McMahon, R. F. and D. W. Aldridge. 1976. New distribution records for three species of freshwater limpet (Pulmonata: Ancylidae) from north central Texas. *Malac. Review* 9: 124-125.

McMahon, R. F., D. W. Aldridge, and G. L. King. 1976. New distribution records for two species of freshwater limpet (Pulmonata: Basommatophora) in southern Oklahoma. *Southwestern Nat.* 21(2): 241-242.

Parodiz, J. J. 1957. New records of freshwater gastropods from the Bahama Islands. *Ann. Carnegie Mus.* 35: 1-9.

Pilsbry, H. A. 1889. Recent additions to the United States snail fauna. *The Nautilus* 3: 62-64.

Richardot, M. G., G. Chassagne, and J. Wautier. 1972. Septum formation in the freshwater limpet *Ferrissia wautieri* (Basommatophora: Ancylidae) under laboratory conditions. *Malac. Review* 5(2): 165-167.

Walker, B. 1903. Notes on eastern American ancyli. *The Nautilus* 17: 13-19, 25-30.

FUSINUS STEGERI (GASTROPODA: FASCIOLARIDAE), A NEW SPECIES FROM THE EASTERN GULF OF MEXICO[1]

William G. Lyons

Florida Department of Natural Resources
Marine Research Laboratory
St. Petersburg, Florida 33701

ABSTRACT

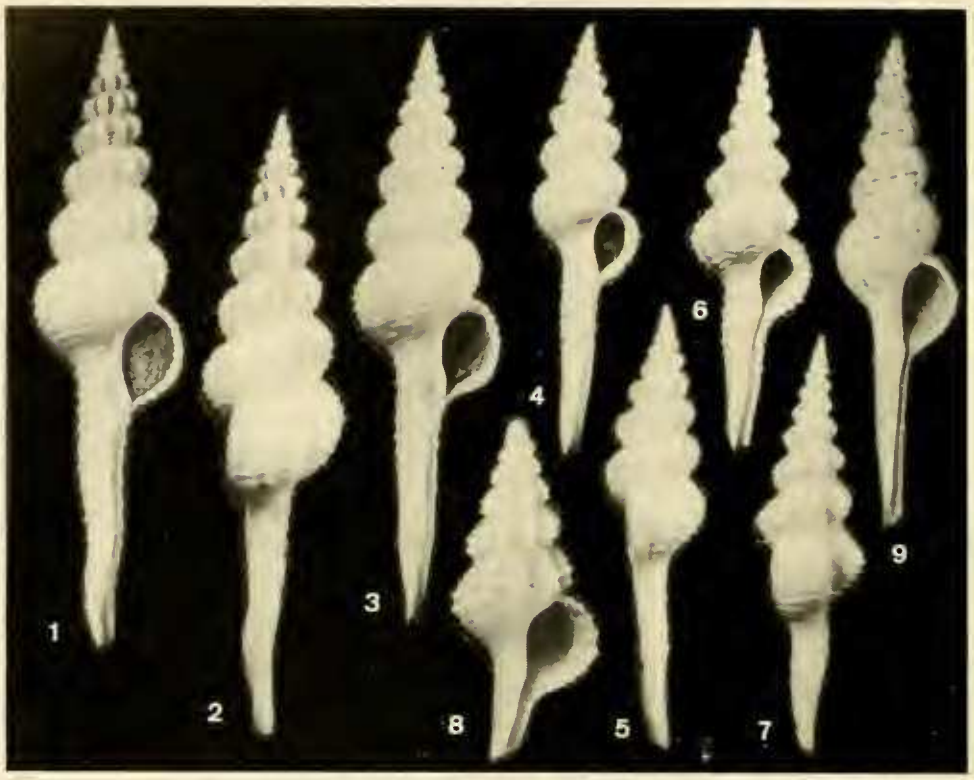
Fusinus stegeri *n. sp. from 100-205 fms (183-375 m) depths off western Florida differs from* F. eucosmius *(Dall, 1889) by its greater length (to 102 mm), white color, and diminishing strength of axial ribs on anterior whorls.* Fusinus eucosmius *is known only to depths of 89 fms (162 m). Twenty-six other names applied to western Atlantic* Fusinus *are listed.*

Commercial shell dredging during the past several years has resulted in increased availability of many deep water west Florida mollusks. A species of *Fusinus* common among private shell collections is here described. Specimens of the new species are deposited in collections of the Academy of Natural Sciences of Philadelphia (ANSP), Pennsylvania, the American Museum of Natural History (AMNH), New York, New York, the British Museum (Natural History) (BMNH), London, the Museum of Comparative Zoology (MCZ), Cambridge, Massachusetts, the National Museum of Natural History, Smithsonian Institution (USNM), Washington, D.C., and the Florida Department of Natural Resources Marine Research Laboratory (FSBC I), St. Petersburg.

Fusinus stegeri, *new species*
(Figures 1-5)

Description: Shell large, to at least 102 mm total length, slender, fusiform, with about 13 whorls. Embryonic whorls about 2½, small, elongate, flattened apically, with only slightly convex lateral margins; last half whorl with strong axial riblets. Nearly 11 postembryonic whorls bearing prominent, swollen axial ribs, increasing numerically but decreasing in strength anteriorly; first five spiral whorls with 6 or 7 ribs, sixth whorl nearly always with 7 ribs, seventh with 8-10, eighth with 9-13, ninth with 10-14, and tenth with 13-16 ribs. Spiral whorls rounded, with strongly convex sides and constricted sutures; each whorl crossed by 6-8, usually 7, prominent spiral cords. About 10 or 11 strong cords on body whorl, 9-12 on base, sometimes with weaker cords between. Aperture ovate, slightly constricted anteriorly and posteriorly; parietal callous extended, forming sharp, thin lamina (inner lip) along columellar border of aperture; lamina sometimes present but reduced along columellar zone of anterior

[1] Contribution no. 317, Florida Department of Natural Resources, Marine Research Laboratory.



FIGS. 1-9. *Western Atlantice* Fusinus: **1.** F. stegeri, *n. sp., holotype, 102 mm, USNM 749082;* **2.** *same, lateral view;* **3.** F. stegeri, *paratype, 97 mm, BMNH 197810;* **4.** F. stegeri, *paratype, 70.4 mm, ANSP 345472:* **5.** *same, lateral view;* **6.** F. eucosmius. *73.8 mm, Hourglass Sta. C, 27° 37′ N, 83° 28′ W, depth 37 m, FSBC I 2284;* **7.** *same, lateral view;* **8.** F. amphiurgus, *holotype, 14 mm, USNM 508725;* **9.** F. halistreptus, *holotype, 80 mm, USNM 93333.*

siphonal canal; one or two small teeth at inner, posterior portion of parietal callus, obsolete in largest shells; inner surface of outer lip with 14-18 simple, usually paired lirae or teeth. Base and anterior siphonal canal slender, about half total length of shell. Operculum thick, rough, corneous, of same size and shape as aperture. Shell white, commonly stained gray posteriorly.

Holotype: Length 102.0 mm, Gulf of Mexico off Sarasota, Florida, 183 m (USNM 749082).

Other material: 3 paratypes, 42.9-84.9 mm, west of Dry Tortugas, 183 m (FSBC I 15028); 1 paratype, 97.0 mm, same data (BMNH 197810); 1 paratype, 80.0 mm, same data (MCZ 288494); 1, 65.5 mm, west of Sarasota, 183 m, Withrow colln.; 4, 57.9-92.4 mm, south of Dry Tortugas, 375 m, Withrow colln.; 1 paratype, 70.4 mm, southwest of Egmont Key, 76 m [?; depth probably actually about 200 m] (ANSP 345472); 1 paratype, 97.9 mm, same data (AMNH 183874); 87.0 mm, same data, Hepler colln.

Etymology: The species is named in memory of the late Daniel D. Steger, Tampa, Florida, whose early dredging and study of Gulf of Mexico mollusks stimulated much of the present interest in this fauna.

Discussion: Fusinus stegeri is distinguished from the similar *F. eucosmius* (Dall, 1889) (Fig. 6) by its larger size, possession of more numerous ribs on anterior whorls, and white color. Color of living or freshly dead *F. eucosmius* shells is orange or apricot, with strongest pigmentation in intercoastal areas. *Fusinus eucosmius* attains a maximum length of approximately 86 mm, but specimens larger than 80 mm are uncommon. At maximum size, *F. eucosmius* has eight or nine strong axial ribs on the terminal (usually eleventh) whorl. Axial ribs increase with shell size throughout the development of *F.*

eucosmius, the final rib on the terminal whorl being far larger than any other rib on the shell (Fig. 7). Conversely, axial ribs on later whorls of *F. stegeri* are markedly smaller than those on some intermediate whorls (Figs. 2, 5). The inner lip, an extension of the parietal shield and columella, is usually very well developed on large *F. stegeri*, and may be present on specimens as small as 70.4 mm (ANSP 345472), but I have seen shells as large as 84.9 and 87.0 mm (FSBC I 15028; Hepler colln.) with no inner lip development. On shells of similar length, apertures are placed more posteriorly on *F. stegeri* than on *F. eucosmius*.

Bathymetric ranges of *F. eucosmius* and *F. stegeri* are apparently separate. Dall (1889) reported *F. eucosmius* at eight stations, seven of which ranged in depth from 27 to 73 fms (49-134 m) and actually contained the reported species. I have since seen *F. eucosmius* dredged in 89 fms (162 m) off Key West by Henderson (USNM 414794). However, Dall's other station, from 111 fms (203 m) off west Florida, contained two small specimens of *F. stegeri*, which Dall labeled *F. eucosmius* var. (USNM 93650). I have seen additional specimens labeled as being captured from depths of approximately 100-205 fms (183-375 m), all from off the Florida west coast between Cape San Blas and Dry Tortugas, and even one lot labeled "250 ft" (76 m); all specimens were originally dredged by Mr. Riley Black, Ft. Myers, Florida, who told me the species was most common in depths of 100-110 fms (183-201 m) and was never collected in 250-ft. depths.

Specimens of *Fusinus stegeri* are common in the cabinets of many shell collectors who have obtained unsorted deep water dredgings from the eastern Gulf of Mexico. The shells are usually erroneously identified as *F. eucosmius*, *F. amphiurgus* (Fig. 8) (Dall, 1889), or *F. halistreptus* (Dall, 1889). Differences between the new species and *F. eucosmius* have been discussed. *Fusinus amphiurgus* (Fig. 8) is a small species possessing eight whorls in a length of 14 mm and colored yellowish, with sprial touches of reddish brown; it is clearly not the new species. *Fusinus halistreptus* (Fig. 9) is similar to *F. stegeri*, but possesses only very low, rudimentary ribs and occurs at greater depth; I have seen only the holotype (USNM 93333) from 338 fms (609 m) near the Little Bahama Bank.

Other names validly or otherwise applied to living western Atlantic *Fusinus* species include: *aepynotus*, *alcimus alcimus*, *alcimus rushii*, *amiantus*, and *benthalis*, all Dall, 1889, *brasiliensis* Grabau, 1903, *bullatus* Dall, 1927, *ceramidus* Dall, 1889, *closter* Philippi, 1850, *couei* Petit, 1853, *dowianus* Olsson, 1954, *caboblanquensis* Weisbord, 1962, *frenguellii* Carcelles, 1953, *gradatus* Reeve, 1848, *hartvigii* Shuttleworth, 1859, *helenae* Bartsch, 1939, *marensis* Weisbord, 1962, *marmoratus* Philippi, 1846, *schrammii* Crosse, 1865, *sinistralis* Lamarck, 1816, *spectrum* Adams and Reeve, 1848, *strigatus* Philippi, 1851, *timessus* Dall, 1889, and *vitreus* Dall, 1927. Some of these have since been shown to belong to faunas of other oceans, others are not species of *Fusinus*, and some may be synonyms of still others on the list. All were eliminated as possible names of the new species.

Early whorls of *F. stegeri* are usually somewhat eroded and stained gray, as often occurs on gastropods living at the outer continental shelf edge or upper slope. However, several specimens are sufficiently intact to reveal that axial sculpture occurs only on approximately the last half whorl of the protoconch, indicating the species should be assigned to *Fusinus s.s.* Abbott (1974) included *F. eucosmius*, *F. couei*, and *F. helenae* with *F. timessus* and *F. dowianus* in the subgenus *Heilprinia* Grabau, 1904, but embryonic sculpture of the first three species clearly dictates their placement in *Fusinus s.s.*; the last two species, with strong axial riblets on all embryonic whorls, are properly *Heilprinia*. Abbott's speculation that *F. dowianus* might represent only a southern subspecies of *F. eucosmius* is therefore incorrect.

ACKNOWLEDGMENTS

Mr. Carl Withrow, St. Petersburg, Florida, donated the specimen selected as holotype of the new species. Messrs. Jerome Bijur and Robert Grab, Naples, Florida, and Neil Hepler, Deerfield Beach, Florida, also donated specimens from their

collections. Dr. K. J. Boss, Museum of Comparative Zoology, provided information on the holotype of *Fusinus amphiurgus*. Mrs. Sally D. Kaicher, St. Petersburg, provided illustrations of holotypes of *F. amphiurgus* and *F. halistreptus* and photographed the other specimens. Mr. Riley Black, Ft. Myers, Florida, provided information regarding initial specimen capture. All are gratefully thanked.

LITERATURE CITED

Abbott, R. T. 1974. *American Seashells*, 2nd ed. 663 pp., 24 pls. Van Nostrand Reinhold Co., New York.

Dall, W. H. 1889. Reports on the results of dredging, under the supervision of Alexander Agassiz, in the Gulf of Mexico (1877-78) and in the Caribbean Sea (1879-80), by the U. S. Coast Survey steamer *Blake*, Lieut. Commander C. D. Sigsbee, U.S.N., and Commander J. R. Bartlett, U.S.N., commanding. XXIX. Report on the Mollusca. Part 2. Gastropoda and Scaphopoda. *Bull. Mus. Comp. Zool.* **18**: 1-492, pls. 10-40.

A NEW FOSSIL *ASHMUNELLA* (PULMONATA:POLYGYRIDAE) FROM THE SIERRA DIABLO AND HUECO MOUNTAINS, TEXAS

Artie L. Metcalf
Department of Biological Sciences
University of Texas at El Paso
El Paso, Texas 79968

and

Richard W. Fullington
Dallas Museum of Natural History
Fair Park Station
Dallas, Texas 75226

ABSTRACT

A new species of fossil polygyrid land snail, Ashmunella watleyi, *is described. The species has been found in deposits of probable late Pleistocene age in the Sierra Diablo and Hueco Mountains of western Texas. An associated molluscan fauna is reported and paleoecological implications discussed.*

Extreme western Texas is located in the Basin and Range Physiographic Province. Some "ranges" may be no more than uplifted plateaus between lower-lying basins. Such is the Diablo Plateau, located mainly in Hudspeth County, Texas. It is bordered by the Salt Basin on the east and Hueco Bolson on the west. Fenneman (1931: 395) characterized the area thus: "Near the Texas boundary there rises. . . the Diablo Plateau. . . bounded by faults and sloping eastward. . . The dissected fault scarps on both sides appear as mountains when viewed from the basins. That on the west, 2,000 ft. high, is known as the Hueco Mountains and farther south as the Finlay Mountains. The somewhat lower scarp on the east is the Diablo Range." The fossils treated herein are from the Sierra Diablo (Fenneman's "Diablo Range") and the Hueco Mountains. The bedrock of both ranges is predominantly limestone of Permian age.

The fossiliferous deposits at the type locality (Loc. 1, described at end of paper) occur on an east-facing slope in the upper end of the main, south arm of Victoria Canyon, which debouches eastward into Salt Basin. The deposits are of sharply angular limestone rock rubble, derived from the Permian bedrock of the area, with interstices filled with silts of rock color "Moderate yellowish-brown, 10YR 5/4." The rubbly deposit forms a mantle on the lower part of the slope. Eleven species of gastropods have been taken from this deposit, including an *Ashmunella* judged to be new. From the Hueco Mountains only one specimen of *Ashmunella* has been taken at each of two localities (Locs. 2 and 3). These shells also were obtained from deposits of hillslope colluvial mantle.

Ashmunella watleyi *new species*
(Figs. 1-4)

Description of Holotype: Shell moderately